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| 10/594,053 | 09/25/2006 | Akihiko Nishio | L9289.06205 | 6081 |

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| EXAMINER |
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GHOWRWAL, OMAR J

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| ART UNIT | PAPER NUMBER |
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2463

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02/18/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/594,053 | NISHIO, AKIHIKO | |
| | Examiner | Art Unit | |
| | OMAR GHOWRWAL | 2463 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/09/09 has been entered.

Response to Remarks

2. This Office action is considered fully responsive to the amendment filed 12/09/09.

Response to Arguments

3. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claim 5** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession

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of the claimed invention. In particular, the control channel being "a downlink dedicated channel" is not mentioned anywhere in the specification.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 3, 5, 8, 10, 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over by U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*").

As to **claim 1**, *Hiramatsu* discloses a base station apparatus (fig. 3, item 101) comprising:

a selection section that selects a mobile station to which a data channel is assigned (para. 0051, BS selects terminal apparatus (fig. 3, MS 102) that has DSCH (data channel)), in accordance with both channel quality of a control channel for transmitting control information, and channel quality of the data channel (fig. 3, para. 0048-0051, selection depends on terminal with good DSCH situation, DSCH information is based on CPICH control channel (para. 0003) reception quality and reception quality of DSCH (data channel) signal);

and a transmitting section that performs radio transmission of data to a selected mobile station (para. 0051, BS selects terminal apparatus (fig. 3, MS 102)).

Hiramatsu does not expressly disclose transmitting control information, *which includes assignment information of a data channel or modulation and coding scheme (MCS) information.*

Li discloses control information includes a modulation scheme and recipient terminal for each HS-PDSCH (i.e. data channel) (para. 0039).

Hiramatsu and *Li* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the control information as disclosed by *Li* into the invention of *Hiramatsu*. The suggestion/motivation would have been to perform data demodulation in CDMA (*Li*, para. 0002).

As to claim 3, *Hiramatsu* and *Li* further discloses the base station apparatus according to claim 1, wherein the selection section selects mobile stations in high-to-low order of the channel quality of the control channel up to number of selections set according to a total number of mobile stations currently accommodated by the base station apparatus (*Hiramatsu*, para. 0050-0051, choosing terminal with “good downlink” (i.e. higher quality than rest) from amongst the rest based on DSCH situation which is evaluated based on CPICH control channel, para. 0086, selecting a terminal capable of sending a DSCH signal at the highest speed from among terminal apparatuses 1 to N

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using MCS1s of DPCH (DPCH includes control channel quality information)). In addition, the same suggestion/motivation of claim 1 applies.

As to claim 5, *Hiramatsu* and *Li* further discloses the base station apparatus according to claim 1, wherein the selection section selects a mobile station to which a data channel is assigned, in accordance with channel quality of the downlink control channel which is a downlink dedicated channel (*Hiramatsu*, para. 0051, MCS1 information included in DPCH signals which are sent to base station—the control channel (CPICH) which is represented by the DPCH signals is "dedicated to control channel signals" in the sense that they are transmitted over this channel). In addition, the same suggestion/motivation of claim 1 applies.

As to **claim 8**, *Hiramatsu* discloses a mobile station apparatus comprising:

a first measuring section that measures channel quality of a control channel for receiving control information (para. 0063, fig. 5, measuring section 304 measures quality of CPICH signal (control channel signal));

a second measuring section that measures channel quality of the data channel (para. 0065, fig. 5, SIR estimation section 305 estimates reception quality of DSCH signal (data channel signal));

a generation section that generates channel quality information from the channel quality of the data channel (para. 0065, fig. 5, SIR estimation section 305 estimates reception quality of DSCH signal (data channel signal), para. 0066, this information is used by MCS1 decision section, i.e. generated by SIR section);

and a determination section that determines whether or not the channel quality information is to be transmitted, in accordance with the channel quality of the control channel (paras. 0065-0067, fig. 5, SIR estimation section transmits quality of DSCH signal to MCS1 section, the quality of DSCH signal is estimated based on CPICH (control channel) signal quality).

Hiramatsu does not expressly disclose control information *including assignment information of a data channel or modulation and coding scheme (MCS) information*.

Li discloses control information includes a modulation scheme and recipient terminal for each HS-PDSCH (i.e. data channel) (para. 0039).

Hiramatsu and *Li* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the control information as disclosed by *Li* into the invention of *Hiramatsu*. The suggestion/motivation would have been to perform data demodulation in CDMA (*Li*, para. 0002).

As to claim 10, *Hiramatsu* and *Li* further discloses the mobile station apparatus according to claim 8, wherein the first measuring section measures channel quality using a reception signal-to-interference ratio (SIR) of the control channel (para. 0063, measuring section 304 measures the reception quality SIR of the CPICH signal). In addition, the same suggestion/motivation of claim 8 applies.

As to **claim 12**, *Hiramatsu* discloses a data channel assignment method whereby a mobile station to which a data channel is assigned is selected (para. 0051, BS selects

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terminal apparatus (fig. 3, MS 102) that has DSCH (data channel)) in accordance with both channel quality of a control channel for transmitting control information, and channel quality of the data channel (fig. 3, para. 0048-0051, selection depends on terminal with good DSCH situation, DSCH information is based on CPICH control channel (para. 0003) reception quality and reception quality of DSCH (data channel) signal).

Hiramatsu does not expressly disclose control information, *which includes assignment information of a data channel or modulation and coding scheme (MCS) information.*

Li discloses control information includes a modulation scheme and recipient terminal for each HS-PDSCH (i.e. data channel) (para. 0039).

Hiramatsu and *Li* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the control information as disclosed by *Li* into the invention of *Hiramatsu*. The suggestion/motivation would have been to perform data demodulation in CDMA (*Li*, para. 0002).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 2, 6, 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2003/0073409 A1 to *Nobukiyo et al.* ("*Nobukiyo*").

As to claim 2, *Hiramatsu* and *Li* does not expressly disclose the base station apparatus according to claim 1, wherein the selection section selects a mobile station for which the channel quality of the control channel is greater than or equal to a threshold value set according to a total number of mobile stations currently accommodated by the base station apparatus.

Nobukiyo discloses in paras. 0154-0159, figs. 21 and 22, a mobile station transmits quality information after setting channel with the base station. The mobile station transmits this information if it has a reception quality greater than or equal to threshold "P". Threshold "P" is set based on a value "N" corresponding to the number of mobile stations which report reception quality.

Hiramatsu, *Li* and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the threshold value and quality reporting as disclosed by *Nobukiyo* into the invention of *Hiramatsu* and *Li*. The suggestion/motivation would have been to extend battery life and improve high speed packet transmission service with low error ratio (*Nobukiyo*, paras. 0154-0159).

As to claim 6, *Hiramatsu and Li* discloses the base station apparatus according to claim 1, wherein the selection section selects a mobile station to which a data channel is assigned, in accordance with channel quality of a control channel (*Hiramatsu*, para. 0049-0051).

Hiramatsu and Li does not expressly disclose in accordance with channel quality of an uplink control channel for transmitting an acknowledgement (ACK) or a negative acknowledgement (NACK).

Nobukiyo discloses UL HS-DPCCH transmits ACK/NAKs and quality information to the base station by the mobile station (para. 0005).

Hiramatsu, Li and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the UL HS-DPCCH quality information as disclosed by *Nobukiyo* into the invention of *Hiramatsu and Li*. The suggestion/motivation would have been to have a BS and MS suitable for use in a HSDPA system (*Nobukiyo*, para. 0002).

As to claim 9, *Hiramatsu and Li* does not expressly disclose the mobile station apparatus according to claim 8, wherein the determination section determines that the channel quality information is to be transmitted when the channel quality of the control channel is greater than or equal to a threshold value, and determines that the channel quality information is not to be transmitted when the channel quality of the control channel is less than a threshold value.

Nobukiyo discloses a mobile communication system in which the quality information is reported when the reception quality of the mobile station is greater than or equal to the threshold value (para. 0155).

Hiramatsu, Li and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the threshold value and quality reporting as disclosed by *Nobukiyo* into the invention of *Hiramatsu* and *Li*. The suggestion/motivation would have been to extend battery life and improve high speed packet transmission service with low error ratio (*Nobukiyo*, para. 0154-0155).

9. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Patent No. 6,735,178 B1 to *Srivastava et al.* ("*Srivastava*").

As to claim 4, *Hiramatsu* and *Li* further discloses the base station apparatus according to claim 1, wherein the selection section performs selection in accordance with the channel quality of the data channel after receiving information in accordance with the channel quality of the control channel (*Hiramatsu*, para. 0065, estimating quality of DSCH (data) signal based on CPICH (control) signal quality).

Hiramatsu and *Li* does not expressly disclose *after performing selection* in accordance with the channel quality of the control channel.

Srivastava discloses in fig. 2, col. 3, lines 14-20, measuring quality to destinations, and collecting latency information. After that, discarding bad links from consideration, and from the remaining links, calculating quality of throughput and selecting destination with highest quality throughput, i.e. selecting based on quality of one link factor first then, then selecting a destination based on quality of a different link factor from the remaining pool of destinations.

Hiramatsu, Li and *Srivastava* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate selection method as disclosed by *Srivastava* into the invention of *Hiramatsu* and *Li*. The suggestion/motivation would have been to maximize data throughput of a multiple radio system (*Srivastava*, col. 1, lines 6-9).

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2002/0126645 A1 to *Ryu*.

As to claim 7, *Hiramatsu and Li* discloses the base station apparatus according to claim 1, wherein the selection section performs selection in accordance with both channel quality of the control channel and the channel quality of the data channel only for a mobile station that is within an area covered by the base station (*Hiramatsu*, para. 0047).

Hiramatsu and Li does not expressly disclose a mobile station whose distance from the base station is greater than or equal to a predetermined value.

Ryu discloses if the distance value received by the mobile station 100 is within the range presented by the base station A 106, the mobile station 100 can receive the broadcasting (fig. 10, para. 0053), i.e. value within range ($\text{min} < \text{value} < \text{max}$ is a range where the value is greater than the minimum value in the range).

Hiramatsu, Li and *Ryu* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the distance value as disclosed by *Ryu* into the invention of *Hiramatsu and Li*. The suggestion/motivation would have been so that the mobile station can receive broadcasting if the value is within a range (*Ryu*, fig. 10, para. 0053).

11. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2002/0136271 A1 to *Hiramatsu et al.* ("*Hiramatsu*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2005/0037766 A1 to *Hans et al.* ("*Hans*").

As to claim 11, *Hiramatsu and Li* discloses BCH demodulation section extracting transmit power information and passing it to SIR estimation section (*Hiramatsu*, para. 0078-0079).

Hiramatsu and Li does not expressly disclose the mobile station apparatus according to claim 8, wherein the first measuring section measures channel quality using required transmission power of the control channel.

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Hans discloses channel measurement arrangement 10 selects the transmission channel that has the minimum transmission power and causes channel assignment arrangement 20 to subsequently use this transmission channel for first connection 41 instead of the corresponding transmission channel measured by connection quality arrangement 40, which has too low a connection quality (para. 0025), i.e. channel power (control of Hiramatsu) measured for quality purposes, selecting the channel with minimum transmission power.

Hiramatsu, Li and *Hans* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the transmission power measurements as disclosed by *Hans* into the invention of *Hiramatsu* and *Li*. The suggestion/motivation would have been to select a channel to use based on quality (*Hans*, para. 0025).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMAR GHOWRWAL whose telephone number is (571)270-5691. The examiner can normally be reached on Monday-Thursday, 8:00am-5:00pm est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick Ferris can be reached on (571)272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. G./
Examiner, Art Unit 2463

/Derrick W Ferris/
Supervisory Patent Examiner, Art Unit 2463